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EXAMINER	
FIGUEROA, MARISOL	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/803,032	ELLIOTT, BRIG BARNUM	
	Examiner	Art Unit	
	Marisol Figueroa	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-10,13-18,22-32 and 34-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-10,13-18,22-32 and 34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 and 36 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments with respect to claim 10 have been fully considered but they are not persuasive.

The Applicant argues that "Javitt has been rendered ineffective by the instant amendment. Claim 10 recites, inter alia:

> "said automatically establishing including: (a) providing wireless-connectivity directly between a first transceiver associated with said network subscriber and a second transceiver associated with a network subscriber other than said one said more than one other network subscriber, and (b) providing wireless connectivity directly between said second transceiver and a third transceiver associated with said one said more than one other network subscriber."

Javitt teaches a requirement of having at least two transceivers per relay point… and therefore, Javitt cannot disclose or suggest (a) providing wireless-connectivity directly between a first transceiver associated with said network subscriber and a second transceiver associated with a network subscriber other than said one said more than one other network subscriber, and (b) providing wireless connectivity directly between said second transceiver and a third transceiver associated with said one said more than one other network subscriber" as recited in claim 10; (see pages 15-416 of Applicant's arguments).

The Examiner respectfully disagrees. Javitt, some paths (see Fig. 1) requires only one relay transceiver 30a (i.e., second transceiver) between the end point transceiver 30b (i.e., first transceiver) and the access point 20a (i.e., third transceiver). Therefore, Javitt meets the new limitations.

3. Applicant's arguments with respect to claims 18, 28, 34, and 35 have been fully considered but they are not persuasive.

The Applicant submits similar arguments to that of claim 10, (see pages 16-19). See Examiner's response for claim 10 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1, 3, 5, and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. (US 5,751,789) in view of KNIGHT (US 2007/0060202).

Regarding claim 1, Farris discloses a device (Smart Network Interface Device SNID or wireless-to-landline interface) for enabling network connectivity with a service provider, the device comprising:

a wireless transceiver (Fig. 2; Cellular Transceiver 51);

an antenna coupled to the wireless transceiver (Fig. 2; Antenna 25); and

a switch coupled to the wireless transceiver and to a wireline network (Fig. 2; col.2, lines 42-45 and 55-59; i.e., Switch 45), the switch exchanging data with the network service provider over the wireline network during normal operation and also exchanging data with the network service provider via the wireless transceiver when the connectivity is lost on the wireline network (Fig. 1; col.3, lines 9-45; col. 3, line 65-col.4, lines 1-36; col.6, line 31-col. 7, lines 1-

46; col.8, lines 54-62; the switch has two latched states, normal line-connected state (1) in which the switch is connected to the active wired telephone line 17 from the customer premises to the end office switch 11 (i.e., service provider) and changes to a second state (2) in where the active twisted pair (or wired telephone line) is connected to the landline-to-cellular interface, the switch connects the active twisted pair to the landline-to-cellular interface when a fault is detected in the end office switching system 11 (i.e., service provider) in order to connect to the end office switching center through the local serving mobile telephone switching office (MTSO) of a wireless communication network via the cellular transceiver).

But, Farris does not particularly disclose wherein the wireless transceiver is configured to relay data from another wireless transceiver that has lost connectivity on the wireline network, said another wireless transceiver being connected to said wireless transceiver through no more than one other wireless transceiver that has also lost connectivity to the wireline network when said data is being relayed, said another and said other wireless transceivers having been wireline-connected to the wireline network during normal operation.

However, Knight teaches a wireless transceiver is configured to relay data from another wireless transceiver that has lost connectivity on the wireline network, said another wireless transceiver being connected to said wireless transceiver through no more than one other wireless transceiver that has also lost connectivity to the wireline network when said data is being relayed, said another and said other wireless transceivers having been wireline-connected to the wireline network during normal operation (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; antenna unit 109 (i.e., wireless transceiver) is connected to the communication network (i.e., service provider) through cell site 101 that is “on the air” when it is connected to a

switching center MTSO (i.e., service provider) over wired medium (i.e., wireline connection), the antenna 109 relays the connection with the MTSO to cell site 119 through antenna unit 116 (i.e., another wireless transceiver) when cell site 119 is "off the air" or "disconnected" because is not connected to the switching system MTSO (i.e., service provider), such as when a conventional cell site's TI cable (i.e., wireline connection) to the MTSO is cut; note that given the broadest reasonable interpretation, the claim language ***no more than one other wireless transceiver*** between the wireless transceiver and the another wireless transceiver, is interpreted as having one other transceiver or not in between (i.e., one hop relay), and Knight teaches a one hop relay figure 1). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Farris to have a wireless transceiver configured to relay data from another wireless transceiver that have lost connectivity on the wireline network with the service provider, said another wireless transceiver being connected to said wireless transceiver through no more than one other wireless transceiver that has also lost connectivity to the wireline network when said data is being relayed, said another and said other wireless transceivers having been wireline-connected to the wireline network during normal operation, as suggested by Knight, since such a modification would provide the advantage for the subscribers to re-establish the communications with the service provider via alternative paths when loosing their direct connection (i.e., wireline connection) with the service provider.

Regarding claim 3, the combination of Farris and Knight disclose the device of claim 1, in addition the combination discloses wherein the wireless transceiver relays data from the other wireless transceivers that have lost connectivity by forwarding data units from the other wireless transceivers through the switch and to the wireline network (Knight-Fig. 1; paragraphs [0014],

[0023], [0025], and [0027]; note that the combination of Farris, Knight, and Javitt will produce this).

Regarding claim 5, the combination of Farris and Knight disclose the device of claim 1, in addition Farris discloses wherein the device is physically located at a location of a subscriber of the network service provider (col.4, lines 18-21).

Regarding claim 9, the combination of Farris and Knight disclose the device of claim 1, in addition Farris discloses wherein the switch monitors a failed connection state of the wireline network for renewed connectivity of the wireline network and resumes communication over the wireline network when the wireline connection is renewed (col.10, lines 41-56).

6. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in views of KNIGHT, and well known prior art (MPEP 2144.05).

Regarding claim 6, the combination of Farris and Knight disclose the device of claim 1, in addition Farris disclose that a variety of wireless transceivers could be used (col.7, lines 13-23), but fails to specifically disclose wherein the wireless transceiver operates in accordance with IEEE 802.11 standards. However, the Examiner takes official notice of the fact that is notoriously well known in the art that the IEEE 802.11 standard is a wireless network technology. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to modify Farris to include a wireless transceiver in accordance with IEEE 802.11 standards, since it is notoriously and well known in the art that that the IEEE 802.11 standard is one of a variety of wireless transceivers used in wireless networks and Farris' invention will perform equally well as with using a cellular transceiver, since Farris indicates that his invention is not restricted to using only a cellular transceiver.

7. **Claim 7** rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in view of KNIGHT and EHRETH (US 6,246,750 B1).

Regarding claim 7, the combination of Farris and Knight disclose the device of claim 1, but the combination does not particularly disclose wherein the wireline network includes a fiber network. However, Ehreth teaches that telecommunication systems using fiber optic cable to transmit communication signals are becoming increasingly prevalent due to the enormous advantages that fiber-optic technology provides (col.1, lines 25-31). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination in order for the wireline network to include a fiber network, as suggested by Ehreth, because telecommunication systems using fiber optic cables have enormous advantages over copper-wire based systems such as larger bandwidth and improved signal quality.

8. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in views of KNIGHT and McKENNA et al. (US 6,829,486 B2).

Regarding claim 8, the combination of Farris and Knight disclose the device of claim 1, but the combination does not particularly disclose wherein the wireline network includes coaxial cables. However, McKenna teaches that wirelined-based communications networks such as traditional telephone systems, Local Area Networks, and the like, can use a variety of physical media to interconnect wired subscribers devices to the wirelined-based communication network and these include: twisted pair, Ethernet, coaxial cable, fiber optic cable, DSL on twisted pair, 4-wire, and the like (col.9, lines 31-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to modify the combination in order for the wireline network to include coaxial cables, as taught by McKenna, because it is conventional and

well known in the art that coaxial cables is one of the variety of physical media used to interconnect subscribers in a wirelined-based communication network.

9. **Claims 10, 17, 18, and 23-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over CARDINA et al. (US 2004/0214569 A1) in views of KNIGHT and JAVITT (US 6,285,857).

Regarding claim 10, Cardina discloses a method performed by a network subscriber comprising:

establishing wireline-connectivity to a network service provider over a wireline connection as a normal connectivity of said network subscriber (Fig. 1; paragraphs [0038], lines 1-9; paragraph [0058]; note that when there is no interruptions in the subscriber's landline/wireline there is a direct landline connection 101 with the network service provider (i.e., public switched network 108));

monitoring the wireline connection for failure (paragraph [0038] lines 1-9, [0058] and [0070]; the backup device 102 monitors and detects service interruption conditions in the customer's landline connection 101 to the landline network); and

when the wireline connection fails, automatically establishing a substitute wireline connection to the network service provider over a wireless connection (Fig. 1; paragraphs [0008], [0012], and [0070]-[0073]; the backup device upon detecting a failure condition in the landline automatically provides backup service to the landline telephone equipment through a wireless telephone (i.e., wireless connection)).

But, Cardina does not particularly disclose wherein the connection to the network service provider is established over a wireless connection relayed from a network subscriber who has a normal wireline-connectivity to the network service provider.

However, Knight teaches establishing a connection with a network service provider over a wireless connection relayed from a network subscriber who has wireline-connectivity to the network service provider when a wireline connection fails (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; when cell site 119 (i.e., subscriber) is said to be "off the air" or "disconnected" because cell site's cable T1 (i.e., wireline connectivity) to the MTSO (i.e., service provider) is cut, the cell site 119 receives or reestablish the connection with the MTSO relayed from cell site 101 (through antenna units 116, 109) which is "on the air" because is connected over a wired medium 100 (i.e., normal wireline connectivity) with the MTSO (i.e., service provider)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Farris to include the features of establishing a connection with a network service provider over a wireless connection relayed from a network subscriber who has wireline-connectivity to the network service provider when a wireline connection fails, as suggested by Knight, since such a modification would provide the advantage for the subscribers to re-establish the communications with the service provider via alternative paths when loosing their direct connection (i.e., primary wireline connection) with the service provider.

But, the combination of Cardina and Knight does not particularly disclose relaying the service via a wireless connection through more than one other network subscriber, said automatically establishing including, (a) providing wireless-connectivity directly between a first

transceiver associated with said network subscriber and a second transceiver associated with a network subscriber other than said one said more than one other network subscriber, and (b) providing wireless connectivity directly between said second transceiver and a third transceiver associated with said one said more than one other network subscriber.

However, Javitt teaches network subscribers comprising wireless transceivers configured to relay a service via a wireless connection through more than one other network subscriber, and wherein establishing a connection includes (a) providing wireless-connectivity directly between a first transceiver associated with said network subscriber and a second transceiver associated with a network subscriber other than said one said more than one other network subscriber, and (b) providing wireless connectivity directly between said second transceiver and a third transceiver associated with said one said more than one other network subscriber (Fig. 1; col. 2, line 60-col. 4, lines 1-4; Javitt teaches a network of geographically scattered users served by access points 20a and 20b (i.e., service providers), each of the users is associated with a transceiver relay point and form a link with the access points via one or more of the relay points, for example, relay point 30b (i.e., third wireless transceiver) can communicate with the access point 20a (i.e., first wireless transceiver) by relaying data via relay point 30a (i.e., second wireless transceiver)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the features of relaying the service via a wireless connection through more than one other network subscriber, and wherein establishing a connection includes (a) providing wireless-connectivity directly between a first transceiver associated with said network subscriber and a second transceiver associated with a network subscriber other than said one said more than one other network subscriber, and

(b) providing wireless connectivity directly between said second transceiver and a third transceiver associated with said one said more than one other network subscriber, as suggested by Javitt, since such a modification would allow the extension of the service to geographically separate subscribers through the relay via a plurality of wireless transceivers.

Regarding claim 17, the combination of Cardina, Knight, and Javitt disclose the method of claim 10, in addition Cardina discloses further comprising: monitoring a failed connection state of the wireline connection for renewed connectivity of the wireline connection; and disconnecting from the wireless connection when the wireless connection is renewed (paragraph [0015]).

Regarding claim 18, Cardina discloses a method for providing fallback network connectivity to a network service provider for one of a plurality of network nodes, said method comprising:

providing wireline-connectivity as primary network connectivity to said service provider for each of said network nodes (Fig.1; paragraphs [0002]; [0057]-[0058] lines 1-4; the customer premises equipments (i.e., network nodes) have landline connections 101 (i.e., primary wireline connection) with the public switched telephone network 108 (i.e., service provider); although only one customer premises equipment is shown, it is well known in the art that a plurality of homes have landline connections to the public switched telephone network);

and providing backup network connectivity to said one node via a wireless network (Fig. 1; paragraphs [0008], [0012], and [0070]-[0073]; customer premises equipment have backup device 102 that automatically provides backup service to the landline telephone equipment through a wireless telephone/network)).

But, Cardina does not particularly disclose wherein said back up network connectivity is implemented by wirelessly relaying data directly from a first transceiver in said one node to a second transceiver in another node in the plurality of networks nodes which had an active wireline connection to the network service provider.

However, Knight teaches providing back up network connectivity to said one node via a wireless network, implemented by wirelessly relaying data directly from a first transceiver in said one node to a second transceiver in another node in the plurality of networks nodes which had an active wireline connection to the network service provider (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; when cell site 119 (i.e., subscriber) is said to be "off the air" or "disconnected" because cell site's cable T1 (i.e., wireline connectivity) to the MTSO (i.e., service provider) is cut, the cell site 119 receives or reestablish the connection with the MTSO relayed from cell site 101 (through antenna units 116, 109; i.e., first and second wireless transceivers, accordingly) which is "on the air" because is connected over a wired medium 100 (i.e., normal wireline connectivity) with the MTSO (i.e., service provider)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Farris to include the features of providing back up network connectivity to said one node via a wireless network, implemented by wirelessly relaying data directly from a first transceiver in said one node to a second transceiver in another node in the plurality of networks nodes which had an active wireline connection to the network service provider, as suggested by Knight, since such a modification would provide the advantage for the subscribers to re-establish the communications with the service provider via alternative paths when loosing their direct connection (i.e., primary wireline connection) with the service provider.

But, the combination of Cardina and Knight does not particularly disclose wherein said second transceiver being wirelessly connected directly to a third transceiver in yet another node.

However, Javitt teaches nodes (i.e., relay points) configured to relay data through a plurality of another nodes, wherein a second transceiver being wirelessly connected directly to a third transceiver in yet another node (Fig. 1; col. 2, line 60-col. 4, lines 1-4; Javitt teaches a network of geographically scattered users served by access points 20a and 20b (i.e., service providers), each of the users is associated with a transceiver relay point and form a link with the access points via one or more of the relay points, for example, relay point 30b (i.e., third wireless transceiver) can communicate with the access point 20a (i.e., first wireless transceiver) by relaying data via relay point 30a (i.e., second wireless transceiver)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to have nodes (i.e., relay points) configured to relay data through a plurality of another nodes, wherein a second transceiver being wirelessly connected directly to a third transceiver in yet another node, as suggested by Javitt, since such a modification would allow the extension of the service to geographically separate subscribers through the relay via a plurality of wireless transceivers.

Regarding claim 23, the combination of Cardina, Knight, and Javitt disclose the method of claim 18, in addition Cardina discloses wherein providing the backup network connection includes authorizing the subscriber of the network with the network service provider (paragraph [0012]; the backup device automatically registers with the MTSO, note that registration involves authorization).

Regarding claim 24, the combination of Cardina, Knight, and Javitt disclose the method of claim 18, in addition Cardina discloses further comprising: providing the backup network connectivity in response to a failed connection state of the wireline connection (paragraphs [0008] and [0011]).

Regarding claim 25, the combination of Cardina, Knight, and Javitt disclose the method of claim 24, in addition Cardina discloses further comprising: monitoring failed connection state of the wireline connection for renewed connectivity of the wireline connection; and disconnecting from the backup network connectivity when the wireline connection is renewed (paragraph [0015]).

Regarding claim 26, the combination of Cardina, Knight, and Javitt disclose the method of claim 18, in addition Cardina disclose wherein the network service provider provides Internet connectivity or telephony services (Fig. 1; the network service provider is a Public Switched Telephone Network (PSTN) that provide telephony services).

10. **Claims 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over CARDINA et al. in views of KNIGHT, JAVITT, and SAWADA (US 2005/0148315 A1).

Regarding claim 14, the combination of Cardina, Knight, and Javitt disclose the method of claim 10, but the combination does not particularly disclose wherein automatically establishing a connection to the network service provider includes broadcasting a message requesting a relay to the network service provider by the one or more other network subscribers.

However, Sawada teaches broadcasting a message requesting a relay to the network service provider by the one or more other network subscribers (paragraphs [0066]-[0067]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of

the invention, to modify the combination to include the features of broadcasting a message requesting a relay to the network service provider by the one or more other network subscribers, as suggested by Sawada, since such a modification would provide the advantage of relaying communications or the connection to the subscriber that issue the relay request (paragraph [0067]).

Regarding claim 15, the combination of Cardina, Knight, Javitt, and Sawada disclose the method of claim 14, in addition Cardina discloses wherein automatically establishing a connection to the network service provider further includes authorizing the subscriber to use the network (paragraph [0012]; the backup device automatically registers with the MTSO, note that registration involves authorization).

Regarding claim 16, the combination of Cardina, Knight, Javitt, and Sawada disclose the method of claim 14, in addition Knight discloses wherein the relaying one or more other network subscribers forward data wirelessly from the network over a second wireless connection to the network service provider (see Fig. 1).

11. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over CARDINA et al. in views of KNIGHT, JAVITT, and McKENNA et al.

Regarding claim 27, the combination of Cardina, Knight, and Javitt disclose the method of claim 18, but the combination does not particularly disclose wherein the wireline network includes a fiber connection or a coaxial connection leading to a subscriber of the network service provider.

However, McKenna teaches that wirelined-based communications networks such as traditional telephone systems, Local Area Networks, and the like, can use a variety of physical

media to interconnect wired subscribers devices to the wirelined-based communication network and these include: twisted pair, Ethernet, coaxial cable, fiber optic cable, DSL on twisted pair, 4-wire, and the like (col.9, lines 31-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to modify the combination in order for the wireline network to include coaxial cables, as taught by McKenna, because it is a standard material used to interconnect subscribers in a wirelined-based communication network.

12. **Claims 28, 30-32, and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in views of KNIGHT and JAVITT (US 6,285,857).

Regarding claim 28, Farris discloses a network comprising:

wireline connections to a plurality of subscribers (note that it is conventional and well known in the art to provide wireline connections/services to a plurality of subscribers);

network interface units (NIUs) located at the plurality of subscribers (col.2, lines 40-45; col.4, lines 18-21; note that it is inherent to recognize when there is a plurality of wireline subscribers there will be a plurality of network interface units (i.e. SNID), one located at each subscriber premises), the NIUs each including:

a wireless transceiver (col.4, lines 26-28; Fig. 2; Cellular Transceiver 51); and

a switch coupled to the wireless transceiver and to one of the wireline connections (Fig. 2; col.2, lines 42-45 and 55-59; Switch 45), the switch providing data from one of the wireline connections to a corresponding subscriber of the network during normal operation of the one of the wireline connections and the switch providing data from the wireless transceiver to the corresponding subscriber of the network when connectivity on the one of the wireline connections fail (Fig. 1; col.3, lines 9-45; col. 3, line 65-col.4, lines 1-36; col.6, line 31-col. 7,

lines 1-46; col.8, lines 54-62; the switch has two latched states, normal line-connected state (1) in which the switch is connected to the active wired telephone line 17 from the customer premises to the end office switch 11 (i.e., service provider) and changes to a second state (2) in where the active twisted pair (or wired telephone line) is connected to the landline-to-cellular interface, the switch connects the active twisted pair to the landline-to-cellular interface when a fault is detected in the end office switching system 11 (i.e., service provider) in order to connect to the end office switching center through the local serving mobile telephone switching office (MTSO) of a wireless communication network via the cellular transceiver).

But, Farris does not particularly disclose wherein the wireless transceiver is configured to relay data from another wireless transceiver in another NIU to which its respective one of said wireline connection have failed, the wireless transceiver being wireline-connected to the wireline network.

However, Knight teaches a wireless transceiver configured to relay data from *another* wireless transceiver that have lost connectivity on the wireline network, said wireless transceiver being wireline-connected to the wireline network (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; antenna unit 109 (i.e., wireless transceiver) is connected to the communication network (i.e., service provider) through cell site 101 that is "on the air" when it is connected to a switching center MTSO (i.e., service provider) over wired medium (i.e., wireline connection), the antenna 109 relays the connection with the MTSO to cell site 119 through antenna unit 116 (i.e., another wireless transceiver) when cell site 119 when is "off the air" or "disconnected" because is not connected to the switching system MTSO (i.e., service provider), such as when a conventional cell site's TI cable (i.e., wireline connection) to the MTSO is cut). Therefore, it

would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Farris to have a wireless transceiver configured to relay data from another wireless transceiver that have lost connectivity on the wireline network, said wireless transceiver being wireline-connected to the wireline network, as suggested by Knight, since such a modification would provide the advantage for the subscribers to re-establish the communications with the service provider via alternative paths when loosing their direct connection (i.e., wireline connection) with the service provider.

But, the combination of Farris and Knight does not particularly disclose the *another* wireless transceiver relaying data directly from yet *another* wireless transceiver in yet another NIU..

However, Javitt teaches an *another* wireless transceiver configured to relay data directly from *yet another* wireless transceiver (Fig. 1; col. 2, line 60-col. 4, lines 1-4; Javitt teaches a network of geographically scattered users served by access points 20a and 20b (i.e., service providers), each of the users is associated with a transceiver relay point and form a link with the access points via one or more of the relay points, for example, relay point 30b (i.e., the *yet another* wireless transceiver) can communicate with the access point 20a by relaying data via relay point 30a (i.e., the another wireless transceiver)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to have the *another* wireless transceiver configured to relay data directly from *yet another* wireless transceiver, as suggested by Javitt, since such a modification would allow the extension of the service to geographically separate subscribers through the relay via a plurality of wireless transceivers.

Regarding claim 30, the combination of Farris, Knight, and Javitt disclose the network of claim 28, in addition Farris discloses wherein the NIUs each additionally include an antenna coupled to the wireless transceiver (Fig. 2; Antenna 25).

Regarding claim 31, the combination of Farris, Knight, and Javitt disclose the network of claim 28, in addition Knight discloses wherein the wireless transceiver is configured to relay data from other wireless transceivers that have lost connectivity with the wireline connections (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; note that the combination of Farris and Knight will produce this, additionally see remarks about claim 28 regarding the combination of Farris and Knight above).

Regarding claim 32, the combination of Farris, Knight, and Javitt disclose the network of claim 28, in addition Knight discloses wherein the wireless transceiver relays data from the other wireless transceivers that have lost connectivity by forwarding data units from the other wireless transceivers through the switch and to the wireline network (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; note that the combination of Farris and Knight will produce this, see remarks about claim 28 above).

Regarding claim 35, Farris discloses a device (Smart Network Interface Device SNID or wireless-to-landline interface) for enabling network connectivity with a service provider, the device comprising:

a wireless transceiver (Fig. 2; Cellular Transceiver 51);

an antenna coupled to the wireless transceiver (Fig. 2; Antenna 25); and

a switch coupled to the wireless transceiver and to a wireline network (Fig. 2; col.2, lines 42-45 and 55-59; i.e., Switch 45), the switch exchanging data with the network service provider

over the wireline network during normal operation and also exchanging other data with the network service provider over the wireline via the wireless transceiver when the wireline connectivity of the other data to the network would otherwise be lost (Fig. 1; col.3, lines 9-45; col. 3, line 65-col.4, lines 1-36; col.6, line 31-col. 7, lines 1-46; col.8, lines 54-62; the switch has two latched states, normal line-connected state (1) in which the switch is connected to the active wired telephone line 17 from the customer premises to the end office switch 11 (i.e., service provider) and changes to a second state (2) in where the active twisted pair (or wired telephone line) is connected to the landline-to-cellular interface, the switch connects the active twisted pair to the landline-to-cellular interface when a fault is detected in the end office switching system 11 (i.e., service provider) in order to connect to the end office switching center through the local serving mobile telephone switching office (MTSO) of a wireless communication network via the cellular transceiver).

But, Farris does not particularly disclose wherein the wireless transceiver is configured to exchange said other data from *another* wireless transceiver that has lost wireline connectivity to the network.

However, Knight teaches wireless transceiver is configured to exchange said other data from *another* wireless transceiver that has lost wireline connectivity to the network (Fig. 1; paragraphs [0014], [0023], [0025], and [0027]; antenna unit 109 (i.e., wireless transceiver) is connected to the communication network (i.e., service provider) through cell site 101 that is "on the air" when it is connected to a switching center MTSO (i.e., service provider) over wired medium (i.e., wireline connection), the antenna 109 relays the connection with the MTSO to cell site 119 through antenna unit 116 (i.e., another wireless transceiver) when cell site 119 is "off the

air" or "disconnected" because is not connected to the switching system MTSO (i.e., service provider), such as when a conventional cell site's TI cable (i.e., wireline connection) to the MTSO is cut). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Farris to have wireless transceiver is configured to exchange said other data from *another* wireless transceiver that has lost wireline connectivity to the network, as suggested by Knight, since such a modification would provide the advantage for the subscribers to re-establish the communications with the service provider via alternative paths when loosing their direct connection (i.e., wireline connection) with the service provider.

But, the combination of Farris and Knight does not particularly disclose said *another* wireless transceiver being wirelessly connected directly to a third said wireless transceiver that has also lost wireline connectivity to the network, said third wireless transceiver being wirelessly connected to said wireless transceiver when said other data is being exchanged.

However, Javitt teaches wireless transceivers configured to relay data through a plurality of wireless transceivers, wherein an *another* wireless transceiver being wirelessly connected directly to a third said wireless transceiver, said third wireless transceiver being wirelessly connected to said wireless transceiver when exchanging data (Fig. 1; col. 2, line 60-col. 4, lines 1-4; Javitt teaches a network of geographically scattered users served by access points 20a and 20b (i.e., service providers), each of the users is associated with a transceiver relay point and form a link with the access points via one or more of the relay points, for example, relay point 30b (i.e., third wireless transceiver) can communicate with the access point 20a (i.e., first wireless transceiver) by relaying data via relay point 30a (i.e., the another wireless transceiver)). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of

the invention, to modify the combination to have wireless transceivers configured to relay data through a plurality of wireless transceivers, wherein an *another* wireless transceiver being wirelessly connected directly to a third said wireless transceiver, said third wireless transceiver being wirelessly connected to said wireless transceiver when exchanging data, as suggested by Javitt, since such a modification would allow the extension of the service to geographically separate subscribers through the relay via a plurality of wireless transceivers.

13. **Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in views of KNIGHT, JAVITT, and PATRON et al. (US 2005/0063333 A1).

Regarding claim 29, the combination of Farris, Knight, and Javitt disclose the network of claim 28, but the combination does not particularly disclose wherein the NIUs form a wireless ad-hoc network. However, Patron teaches that Ad-hoc networks usually consist of several computing devices each equipped with a wireless transceivers (paragraph [0001]). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to recognize that an ad-hoc network may form between the plurality of NIUs, as taught by Patron, because an Ad-hoc network usually consists of devices comprising wireless transceivers and each NIU comprises a wireless transceiver.

14. **Claims 13 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over CARDINA et al. in views of KNIGHT, JAVITT, and further in view of well known prior art (MPEP 2144.05).

Regarding claims 13 and 22, the combination of Cardina, Knight, and Javitt disclose the method of claims 10 and 18, but the combination does not particularly disclose wherein the wireless network is formed in accordance with IEEE 802.11 wireless connectivity standards. The

Examiner takes official notice of the fact that is notoriously well known in the art that the IEEE 802.11 standard is a wireless network technology. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to form a wireless network in accordance with IEEE 802.11 standards in Cardina's invention since is one of a variety of wireless networks available to create wireless local area networks and more cost effective compared to other wireless networks.

15. **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over KNIGHT in view of JAVITT.

Regarding claim 34, Knight discloses a method for maintaining wireline communication comprising:

providing first wireline communication and first wireless communication between a first network subscriber and a network service provider (Fig. 1, i.e., cell site 119 connected to antenna unit 116; paragraphs [0023], [0027], and [0028]; cell site 119 connected to antenna unit 116 (i.e., first network subscriber) when "on the air" has a connection with the MTSO (i.e., network service provider) over a wired medium 100, but when "off the air" the cell site 119 reestablish communications with the MTSO via a wireless connection through antenna unit 116);

providing second wireline communication and second wireless communication between a second network subscriber and said network service provider (Fig. 1, cell site 101 connected to antenna unit 109; cell site 101 connected to antenna unit 109 (i.e., second network subscriber) has a connection with the MTSO (i.e., network service provider) over a wired medium 100); and

providing, when said first wireline communication fails, substitute wireline communication for said first network subscriber by way of said second wireline communication by wirelessly relaying data between two nodes, one of said nodes located in or on premises of said first network subscriber and the other of said nodes located in or on premises of said second network subscriber, said other of said nodes relaying said data with said network service provider over a wireline otherwise normally carrying only said second wireline communication (Fig. 1; paragraphs [0023], [0027], and [0028]; cell site 119 connected to antenna unit 116 (i.e., first network subscriber) when "on the air" has a connection with the MTSO (i.e., network service provider) over a wired medium 100, but when "off the air" the cell site 119 reestablish communications with the MTSO relayed from cell site 101 and antenna unit 109 (i.e., substitute wireline connection with the MTSO)).

But, Knight does not particularly disclose wirelessly relaying data indirectly between two nodes through a third node associated with a third network subscriber, said one node having a first transceiver, said other node having a second transceiver and said third node having a third transceiver, wherein wirelessly relaying data includes said first transceiver wireless communicating directly with said third transceiver and said third transceiver wirelessly communicating directly with said second transceiver.

However, Javitt discloses wirelessly relaying data indirectly between two nodes through a third node associated with a third network subscriber (Fig. 1; col. 2, line 60-col. 4, lines 1-4; Javitt teaches a network of geographically scattered users served by access points 20a and 20b (i.e., service providers), each of the users is associated with a transceiver relay point and form a link with the access points via one or more of the relay points, for example, relay point 30b (i.e.,

third wireless transceiver) can communicate with the access point 20a (i.e., first wireless transceiver) by relaying data via relay point 30a (i.e., second wireless transceiver), consequently relay point 30b communicates with access point 20a indirectly via the relay point 30a). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the features of wirelessly relaying data indirectly between two nodes through a third node associated with a third network subscriber, said one node having a first transceiver, said other node having a second transceiver and said third node having a third transceiver, wherein wirelessly relaying data includes said first transceiver wireless communicating directly with said third transceiver and said third transceiver wirelessly communicating directly with said second transceiver, as suggested by Javitt, since such a modification would allow the extension of the service to geographically separate subscribers through the relay via a plurality of nodes and associated transceivers.

16. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over FARRIS et al. in views of KNIGHT, JAVITT, and CHENG et at. (US 2002/0187746).

Regarding claim 36, the combination of Farris, Knight, and Javitt disclose the network of claim 28, in addition Farris discloses wherein said wireline connections are all connected to network control (Fig. 1; the wireline connection of wireline subscribers are connected to end office switching system (i.e., network control)).

But, the combination does not particularly disclose wherein said wireless transceiver broadcasts a connect message to be received by at least a subset of said plurality of subscribers; one subscriber in said subset is first in said subset to relay said received message to said network

control via a wireline connection; and said network control picks a transceiver included in an NIU of said one subscriber as said yet another wireless transceiver.

However, Cheng teaches a first wireless transceiver broadcasting a connect message to be received by at least a subset of a plurality of subscribers and selecting one of the transceivers that received the message as the relay transceiver (i.e., the yet another transceiver) (paragraphs [0034]-[0037]; the requesting UE (i.e., first transceiver) sends a relay request signal (i.e., connect message) and receive a plurality of responses from other UEs, then a UE is selected to act as the relay for the connection to the BS, then the BS (i.e., control node) confirms the selection of the relay UE). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include a first wireless transceiver broadcasting a connect message to be received by at least a subset of a plurality of subscribers and selecting one of the transceivers that received the message as the relay transceiver (i.e., the yet another transceiver), as suggested by Cheng, in order to successfully set up a relaying link to the service provider.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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